

Apportionment

Topic(s):

Apportionment, voting,
government, representative

Grade Level:

7-8

Approx. Time Required:

35 minutes

Learning Objectives:

Students will be able to:

- Analyze and interpret data in a graph, table, or other visual form.
- Write responses that demonstrate understanding of a given set of data.
- Use data from a table or graph to determine the rate of change.
- Understand the difference between a popular vote and an electoral vote.
- Make predictions based on historical data.
- Understand the importance of being counted in the 2020 Census.

Introduction

The 2020 Census Statistics in Schools (SIS) program is designed to educate students about the decennial census and to teach them educational concepts and skills, such as data literacy, through use of census data in the classroom. Responding to the census helps your community get its fair share of funding. Census data guides how more than \$675 billion in federal funding is distributed to states and communities each year. These funds support vital community programs that help children, such as schools, hospitals, housing, and food assistance. By educating students about the 2020 Census, you can help encourage a complete count.

The 2020 Census SIS program can be used with educational standards across the United States. You can use the topics and learning objectives above to determine which subject and unit plan or theme this activity will best fit into.

About the 2020 Census

In addition to the information that is built into instructions for this activity, the following points provide an easy, grade-appropriate way to explain the census to your students.

- The decennial census is a count of every person living in the United States that occurs every 10 years.
- It is important that every person be counted so that the government can properly distribute \$675 billion to communities.
- The population of every state, as counted in the census, also determines how many representatives each state is given in the U.S. House of Representatives.
- You can do your part by making sure an adult in your home counts you—and every person living in your home—in the 2020 Census.





Materials Required

- [“The Amazing Apportionment Machine”](https://www.census.gov/schools/resources/videos/apportionment-machine.html) video (<https://www.census.gov/schools/resources/videos/apportionment-machine.html>)
- [“How Does Your State Stack Up”](https://www.census.gov/library/visualizations/interactive/state-population-changes.html) graphic to display on the board (<https://www.census.gov/library/visualizations/interactive/state-population-changes.html>)
- A projector or interactive whiteboard with internet
- Printed student worksheets
- Small pieces of paper for each student’s ballot

Worksheet Description

Students will learn about what congressional apportionment is, how it works, why it’s important, and how it relates to the decennial census.

Before the Activity—10 Minutes

1. Begin by surveying students on a controversial, but relatable, question: “Should schools be year-round, with quarterly two-week breaks instead of one long summer break?” Ask students to consider the two options: Option A: Year-round school with more breaks or Option B: One long summer break.
2. Have students write their vote (Option A or B) on a small piece of paper, or “ballot,” and then submit their ballots. Collect the ballots. Then count and tally the total votes on the board. Identify which option won this popular vote.
3. Next, divide students into three unequal groups. Allot one representative for every two students (for example, a group of six would have three representatives). Repeat the vote on the same question, providing one minute for each group to discuss. Then have the representatives from each group go to the front of the room and tell the teacher their vote. Tally up the “electoral vote” on the board next to the popular vote.

Explain the difference between a popular vote—where every person’s vote is counted—and an electoral vote—where representatives vote on behalf of people they represent. Ask students whether they felt their views were fully represented by their representative.



4. Discuss how membership is determined in the U.S. Congress. Provide context for students about the federal government, such as:

- The U.S. Congress comprises two legislative bodies, the Senate and the House of Representatives.
- The process for determining the number of representatives each state receives in the U.S. House of Representatives is called apportionment and is based on the population recorded in the decennial census, as required by the Constitution.
- The next decennial census will count where each person is living in the United States as of April 1, 2020, and the 2020 Census data will be used to reapportion each state's seats in the U.S. House of Representatives.
- During a presidential election, each state has as many electoral representatives as it has representatives and senators in Congress. For example, if Alabama has seven representatives and two senators, it will have nine electoral representatives.

5. Review key vocabulary with the class:

- **U.S. Congress:** The legislative branch of the U.S. government. The U.S. House of Representatives and the Senate work together to create laws.
- **Apportionment:** The process of dividing the 435 seats in the U.S. House of Representatives among the 50 states according to each state's population. The population is determined by the decennial census. At the conclusion of each census, the results are used to calculate the number of House seats to which each state is entitled.
- **U.S. House of Representatives:** One of the two legislative bodies of the U.S. Congress established in Article I of the U.S. Constitution, with its members elected every two years and states allotted one or more seats based on their populations. (The other legislative body is the Senate, in which each state is allotted two seats, regardless of the state's population.)
- **Popular vote:** A vote in which every person's vote is counted.
- **Electoral vote:** A vote in which people are elected to vote on behalf of a specific group of people.



During the Activity—20 Minutes

1. Show students "[The Amazing Apportionment Machine](https://www.census.gov/schools/resources/videos/apportionment-machine.html)" animated video. (<https://www.census.gov/schools/resources/videos/apportionment-machine.html>)
2. Hand out student worksheets, directing students to look at their state's population and number of representatives. Ask students to pick three other states—in addition to their own state—that they'd like to compare in the activity. Encourage students to choose a diverse group of states: for example, states from different parts of the country or some smaller and larger states.
3. Ask students to use the map and the table in **Activity Item: Congressional Apportionment** to complete Questions #1 through #3 on their worksheets. Students will record the number of representatives apportioned for their chosen states for the years 1950, 1970, 1990, and 2010 and then calculate the rate of change between 1950 and 2010.

Question #1: How many representatives are apportioned for your state, based on 2010 data?

Answers will vary by state; example: Tennessee has 9 representatives.

Question #2: Choose three other states. Record how many representatives each state was allotted in 2010.

Answers will vary, depending on the states chosen. Example: Ohio has 16, Rhode Island has 2, and Texas has 36.

Write the following formula on the board for students to use in calculating the rate of change: (New # of reps - Old # of reps) / Old # of reps x 100. Give students 15 minutes to complete the data table in their worksheet (Question #3) and Questions #4 through #6.

Sample calculation for Washington:

$$\frac{(10-7)}{7} \times 100 = 43\%$$

Question #4: Which state gained the most representatives between 1950 and 2010, based on the rates of change you calculated?

Answers will vary, depending on the states chosen. Example: Texas had the greatest rate of change compared with Ohio and Rhode Island.



Question #5: Do you think the number of representatives in your state will increase, decrease, or stay the same after the 2020 Census? Do you think the rate of change in your state will be positive, zero, or negative? Why?

Answers will vary, based on your state's rate of change, but students should identify a trend, say whether they think it will continue or not, and provide reasoning to back their conclusion.

Question #6: Why is it important that the U.S. Census Bureau get an accurate count in the 2020 Census?

Answers will vary but may include that the population count for every state in the 2020 Census will determine how many representatives each state is given in the House of Representatives.

After the Activity—5 Minutes

Project the "[How Does Your State Stack Up](https://www.census.gov/library/visualizations/interactive/state-population-changes.html)" (<https://www.census.gov/library/visualizations/interactive/state-population-changes.html>) graphic on the interactive whiteboard or overhead, making sure to select April 2010 through July 2018. Ask students what trends they notice and lead a discussion about the shift in population to or from your state and any population shifts for the country as a whole. Finally, have students record their answers to Question #7 in their student worksheets based on the classroom discussion.

Question #7: Based on the "How Does Your State Stack Up" graphic, what trends in population do you notice within your state and across the country? Why do you think these shifts have happened?

Answers will vary, but students should notice that Utah and Texas have had the greatest increases in population over a 10-year period, while Puerto Rico, West Virginia, and Illinois are the only states/territories to decrease in population. Students may say that job opportunities, job losses, cost of living, natural disasters, or education may have affected those shifts in population. Students should also notice population growth in the Southeast and in northern and western states and a decrease in population in the Northeast and several midwestern states.

Home Extension

Teachers, please read the instructions for the students' homework assignment out loud to the class:

Take your student worksheet home and share it with an adult in your home. Ask them whether they think the number of representatives for your state has increased, decreased, or stayed the same since 1950. Verify their answer with the data you collected in class and share what you learned about the importance of the decennial census.





Activity Item: Congressional Apportionment

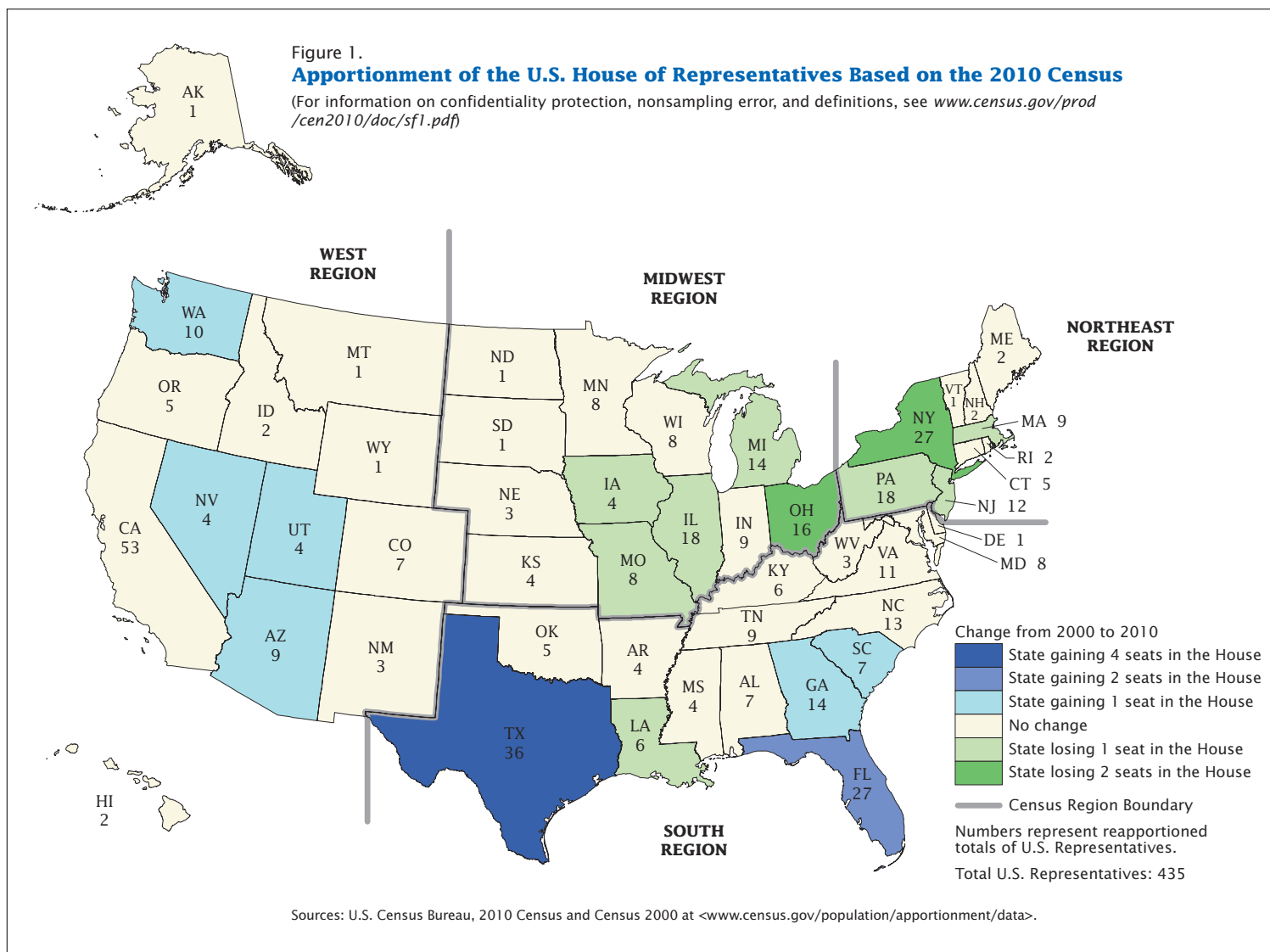
State	Apportionment Population	Number of Representatives						
		2010	2000	1990	1980	1970	1960	1950
Alabama	4,802,982	7	7	7	7	7	8	9
Alaska	721,523	1	1	1	1	1	1	1
Arizona	6,412,700	9	8	6	5	4	3	2
Arkansas	2,926,229	4	4	4	4	4	4	6
California	37,341,989	53	53	52	45	43	38	30
Colorado	5,044,930	7	7	6	6	5	4	4
Connecticut	3,581,628	5	5	6	6	6	6	6
Delaware	900,877	1	1	1	1	1	1	1
Florida	18,900,773	27	25	23	19	15	12	8
Georgia	9,727,566	14	13	11	10	10	10	10
Hawaii	1,366,862	2	2	2	2	2	2	1
Idaho	1,573,499	2	2	2	2	2	2	2
Illinois	12,864,380	18	19	20	22	24	24	25
Indiana	6,501,582	9	9	10	10	11	11	11
Iowa	3,053,787	4	5	5	6	6	7	8
Kansas	2,863,813	4	4	4	5	5	5	6
Kentucky	4,350,606	6	6	6	7	7	7	8
Louisiana	4,553,962	6	7	7	8	8	8	8
Maine	1,333,074	2	2	2	2	2	2	3
Maryland	5,789,929	8	8	8	8	8	8	7
Massachusetts	6,559,644	9	10	10	11	12	12	14
Michigan	9,911,626	14	15	16	18	19	19	18
Minnesota	5,314,879	8	8	8	8	8	8	9
Mississippi	2,978,240	4	4	5	5	5	5	6
Missouri	6,011,478	8	9	9	9	10	10	11
Montana	994,416	1	1	1	2	2	2	2
Nebraska	1,831,825	3	3	3	3	3	3	4
Nevada	2,709,432	4	3	2	2	1	1	1
New Hampshire	1,321,445	2	2	2	2	2	2	2
New Jersey	8,807,501	12	13	13	14	15	15	14
New Mexico	2,067,273	3	3	3	3	2	2	2
New York	19,421,055	27	29	31	34	39	41	43
North Carolina	9,565,781	13	13	12	11	11	11	12



Activity Item: Congressional Apportionment (Cont.)

State	Apportionment Population	Number of Representatives						
		2010	2000	1990	1980	1970	1960	1950
North Dakota	675,905	1	1	1	1	1	2	2
Ohio	11,568,495	16	18	19	21	23	24	23
Oklahoma	3,764,882	5	5	6	6	6	6	6
Oregon	3,848,606	5	5	5	5	4	4	4
Pennsylvania	12,734,905	18	19	21	23	25	27	30
Rhode Island	1,055,247	2	2	2	2	2	2	2
South Carolina	4,645,975	7	6	6	6	6	6	6
South Dakota	819,761	1	1	1	1	2	2	2
Tennessee	6,375,431	9	9	9	9	8	9	9
Texas	25,268,418	36	32	30	27	24	23	22
Utah	2,770,765	4	3	3	3	2	2	2
Vermont	630,337	1	1	1	1	1	1	1
Virginia	8,037,736	11	11	11	10	10	10	10
Washington	6,753,369	10	9	9	8	7	7	7
West Virginia	1,859,815	3	3	3	4	4	5	6
Wisconsin	5,698,230	8	8	9	9	9	10	10
Wyoming	568,300	1	1	1	1	1	1	1

Activity Item: Congressional Apportionment (Cont.)



Source: U.S. Census Bureau, 2010 Census Briefs

<https://www.census.gov/prod/cen2010/briefs/c2010br-08.pdf>